REMARKS

Claims 1-34 remain pending in the present application. Applicants have amended claims 1, 5, 9, 13, 17, 19, 22-23, 26, 30 and 34. No new matter has been added. Reconsideration and allowance of the application and pending claims are respectfully requested.

I. Claims 1-5, 9-13, 17-19, 22, 23, 26-30 and 34 Are Patentable Over U.S. Patent No. 6,124,806

1. Statement of the Rejection

Claims 1-5, 9-13, 17-19, 22, 23, 26-30 and 34 stand rejected under 35 U.S.C. §102(a) or §102(e) as allegedly being anticipated by *Cunningham et al.*, (U.S. Patent No. 6,124,806), hereinafter referred to as *Cunningham*. Applicants respectfully traverse this rejection.

2. Applicants' Claimed Invention

Applicants' claims describe novel systems and methods for remote monitoring of utility consumption measured by a utility meter. As provided in independent claim 1, as amended, Applicants' claim:

> 1. **A communication device** adapted for use in an automated monitoring system for providing remote monitoring of utility consumption, the automated monitoring system comprising a site controller in communication with a plurality of utility meters via a wireless communication network and in communication with a host computer via a wide area network, the communication device comprising:
>
> **a data interface configured to receive data related to the consumption measured by a utility meter;**
>
> memory comprising a unique identifier corresponding to the utility meter;
>
> logic configured to receive the data related to the consumption measured by the utility meter, retrieve the unique identifier corresponding to the utility meter, and generate a transmit message using a predefined communication protocol being implemented by the wireless communication network, the transmit message comprising the unique identifier and the data related to the consumption

measured by the utility meter and configured such that the transmit message may be received by the site controller via the wireless communication network and such that the site controller may identify the utility meter and notify the host computer of the transmit message;

a wireless transceiver configured for communication over the wireless communication network and configured to provide the transmit message to the wireless communication network and receive messages from the wireless communication network; and

logic configured to receive a transmit message from another communication device and retransmit the received transmit message.

Applicants' claim 1 (emphasis added). Accordingly, Applicants' claims define a communication device interfaced with a utility meter for receiving consumption information and conveying such information to a host computer via a site controller. Furthermore, the claims define a communication device capable of relaying such information to and from another similar communication device. Notably, the other independent claims present in the case, claims 9, 17, 22, and 26, contain similar recitations regarding a communication device interfaced with a utility meter including the capability to act as a relay or repeater.

3. The *Cunningham* Reference

Cunningham discloses a wide area remote telemetry system which monitors and controls remote devices by means of an information control system. FIGS. 1 and 49 illustrate representative embodiments of the invention. In particular, FIG. 1 illustrates various sensor interface modules (SIMs) 104 or 106 that communicate with a data collection module (DCM) 112 or 114. Each SIM includes the hardware and software to interface with a device to which the SIM is associated. Information about the device (for example, a utility meter, vending machine, pay phone, *etc.*) can then be processed by the SIM and communicated to the DCM.

The DCMs are coupled to a commercial network (CN) 118. The DCMs pass the information received from each SIM along to the CN. Likewise, downstream communications can be relayed from the CN to each SIM via a DCM.

FIG. 49 illustrates a similar embodiment, yet with more detail. Illustrated are various telemetry interface modules 6318, 6320, and 6324 that, as the specification states, are analogous to the SIMs of FIG. 1. A network of gateways and repeaters 6326, 6328, 6330 are analogous to the DCMs of FIG. 1 and thus serve similar functions. Namely, the gateways and repeaters provide wireless communication with the telemetry interface modules and wireline (through, for example, telephone or the Internet) communication to a wide area network.

As will be illustrated in further detail below, *Cunningham* fails to illustrate, teach, or disclose, each element of the present claims. In particular, *Cunningham* fails to teach or disclose a communication device that includes both a data interface to an associated device (such as a utility meter) and the functionality to serve as a relay for other communication devices.

4. Discussion of the Rejection

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Thus, ***every*** claimed feature/element/limitation must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. §102.

In the present case, not every feature of the claimed invention is represented in the *Cunningham* reference. Applicants' discussion focuses on claim 1, as an example. Notably all other pending independent claims include similar limitations, which *Cunningham* fails to teach.

Claim 1 is directed to a communication device that operates within an automated monitoring system. Also included in the automated monitoring system is a site controller. As highlighted above, claim 1 recites:

"a data interface configured to receive data related to the consumption measured by a utility meter; and...

logic configured to receive a transmit message from another communication device and retransmit the received transmit message."

The most closely similar structure in *Cunningham* to the communication device of claim 1 is clearly the sensor interface module (SIM) 104 or 106 illustrated in FIG. 1, or alternatively SIM 6318 of FIG. 49. Applicants consider this the most closely similar structure because the SIM 104, 106, or 6318 is the only device in *Cunningham* that includes a data interface to an associated meter (as an example) and a transceiver for communicating such information in a wireless manner. Generally, *Cunningham's* SIM includes other similar elements to the communication device of claim 1.

However, the SIM 104, 106, or 6318 does NOT include a relay functionality (as recited in claim 1). In other words, one SIM does not talk to another SIM, and furthermore, does not relay such information to, for instance, the DCM 112, 114, or 136. In each and every instance in *Cunningham*, a SIM communicates **directly** with a DCM or similar structure.

There are, however, other devices illustrated in *Cunningham* aside from the SIM. For example, *Cunningham* illustrates the DCM, as well as telemetry network repeaters 6328. These devices are similar to the claimed communication device in that they include the functionality to wirelessly communicate and relay communications. However, the DCM and the telemetry network

repeaters do NOT include a data interface to an associated device such as a utility meter, as necessarily claimed in claim 1.

Thus, it is clear that there is no device in *Cunningham* that includes ALL of the features/elements/limitations of claim 1, as is necessary for a rejection under 35 U.S.C. §102. For this reason, Applicants submit that the rejection under 35 U.S.C. §102 should be withdrawn and the claims be allowed.

Cunningham fails to disclose, teach or suggest every element of Applicants' claim 1, and thus the rejection under 35 U.S.C. §102 should be withdrawn. Claims 9, 17, 22, and 26 include similar limitations as claim 1, thus Applicants submit that these claims are allowable for at least the same reasons claim 1 should be allowed. Further, because independent claims 1, 9, 17, 22, and 26 are allowable over *Cunningham*, dependent claims 2-8, 10-13, 18-19, 23, 27-30 and 34 are allowable for at least the reason that these claims contain all elements of their respective independent base claims. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, Applicants respectfully request that the rejection be withdrawn and claims 1-5, 9-13, 17-19, 22, 23, 26-30 and 34 be allowed.

Although Applicants believe the rejection under 35 U.S.C. §102 to be improper and the claims thus in condition for allowance, Applicants will further address a suggestion made in the Advisory Action by the Office. The Advisory Action suggests that *Cunningham* does include all of the features/elements/limitations of claim 1, but not however, located in the same device, and to combine such limitations as taught in a distributed manner by *Cunningham* into a single device would be an obvious design choice. First, as an initial matter, Applicants submit that it is clear a 35 U.S.C. §102 is improper and for the assertion made in the Advisory Action to be proper, a 35

U.S.C. §103 rejection would be required. As to yet, this has not been done. Applicants address herein whether such a modification would be an obvious design choice.

Upon reviewing the many issues an engineer must consider when designing a communication system, communication device, and communication protocol, it becomes clear that it is unfeasible, or at least not obvious, to combine bits and pieces of disjoint devices into one as suggested in the Advisory Action. In the technology in which the present application is focused, an engineer must consider such things as power consumption, data rate, data timing and synchronization, size of the communication device, cost, interference and noise, and installation and maintenance. Each one of these considerations are affected by the other, creating an endless variety of engineering possibilities. To make one change in the design often requires a complete redesign of the system structure, communication protocol, and business case. For example, for each SIM in *Cunningham* to also function as a relay, or repeater, several other issues arise:

1) Communication Protocol – The addressing scheme and, thus, the relationship among devices changes when a device not only serves as an endpoint, but also a repeater. Each SIM must be capable of determining when to relay and when to simply receive. This requires a redesign of the communication protocol, which requires a redesign of the transmit and receive firmware for communicating with such a protocol, and may require a redesign of the hardware at each communication device.

2) Power Consumption – If each SIM served as a relay as well as a sensor interface, it then must be determined whether more or less power is required to operate each SIM. On one hand, each SIM would presumably be transmitting and receiving more often, thus expending more power. On the other hand, depending on the system layout, the SIM may physically be closer in

proximity to each other. The closer they are to each other, the less power is required to communicate. Power is of great concern in this technology, because in many instances remote power, such as a battery supply, is necessary. It is unforeseeable to place such devices out in the field, only to require the batteries to be replaced every year. A thorough analysis of the power requirements would have to be made.

3) System Layout – If each SIM were to serve as a relay, the entire system layout would be changed. The one-to-many architecture illustrated in *Cunningham* requires a DCM, or similar structure, to be in close proximity to the SIMS. *Cunningham's* layout suggests a cellular-type architecture. If the SIMs were now to act as relay points, the reach of each DCM would now be greatly extended, requiring less DCMs, and the entire architecture would be changed. This would require a thorough review of the system architecture and warrant a completely separate patent application.

4) Interference – With each SIM having the ability to relay, presumably more wireless communication would occur in a given geographical environment. The one-to-many approach of *Cunningham* obviates such interference, as each communication is either destined for or arriving from one source. Now, when each SIM serves as a relay, communications may be transmitted from any SIM and destined for any SIM. Collisions, timing, and frequency channel interference all become a concern with increased RF noise. A thorough analysis of the potential interference would be required.

5) Modulation Scheme – The modulation scheme would probably change as the above parameters may change. For example, increased power offers longer range communications, but may require a change in the modulation protocol in order to comply with certain FCC requirements.

Shorter-range communications may be lower in power, but have interference issues that a particular modulation scheme can obviate.

Listed are only a handful of engineering issues that must be considered when designing such a communications system. This list is not intended to be complete. Instead, it is intended to illustrate that the changes to *Cunningham* suggested in the Advisory Action clearly are not obvious design choices.

II. Claims 6, 7, 14, 15, 20, 31 and 32 Are Patentable Over U.S. Patent No. 6,124,806 In View Of U.S. Patent No. 6,061,604

Claims 6, 7, 14, 15, 20, 31 and 32 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Cunningham* in view of *Russ et al.* (U.S. Patent No. 6,061,604), hereinafter referred to as *Russ*. Applicants respectfully traverse this rejection because independent claims 1, 9, 17, 22 and 26 are allowable over *Cunningham*, as discussed above, and the Office Action does not allege that *Russ* discloses, teaches, or suggests the claimed features identified above. In fact, Applicants respectfully submit that *Russ* also fails to teach these features. Therefore, dependent claims 6, 7, 14, 15, 20, 31 and 32 are allowable because they include the features of the corresponding independent claims, which are not disclosed, taught, or suggested by either *Cunningham* or *Russ*.

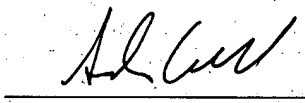
Claims 8, 16, 21, 25 and 33 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Cunningham* in view of *Russ,* and further in view of *Cumeralto et al.* (U.S. 2002/0109607), hereinafter referred to as *Cumeralto*. Applicants respectfully traverse this rejection because independent claims 1, 9, 17, 22 and 26 are allowable over *Cunningham*, as discussed

above, and the Office Action does not allege that *Russ* or *Cumeralto* discloses, teaches, or suggests the claimed features identified above. In fact, Applicants respectfully submit that *Russ* and *Cumeralto* also fail to teach these features. Therefore, dependent claims 8, 16, 21, 25 and 33 are allowable because they include features of the corresponding independent claims, which are not disclosed, taught, or suggested by *Cunningham*, *Russ*, or *Cumeralto*.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-34 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,



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